STEPANSKIY, G.A.

1

Drop test for CO-hemoglobin with copper sulfate. G. A. Stepanskii (I. P. Pavlov Med. Inst., Ryazan). *Laboratornoe Delo* 11, No. 3, 33-34(1965).—One drop each of suspected and normal blood are deposited on a white-surface paper or porcelain and mixed with a drop of 2% $CuSO_4$. Results are read after ½-1 min. Control has the appearance of a gray brownish or chocolate-brown pasty mass. The suspected blood sample, having CO-hemoglobin but the same consistency but the color is raspberry-red, turning dark-brown on standing. When the blood contains less than 100% the color is a blending of red and brown. The more CO-hemoglobin the more the red color predominates. Limit of sensitivity is 5%. Control is unnecessary when more than 50% CO-hemoglobin is present.

A. S. Markin

1112. THE PATHOGENESIS OF HAEMOLYTIC ANAEMIA OF TOXIC ORIGIN (Russian text) - Stepanskiy G. A. Med. Inst. Pavloff, Ryazan - ARKH. PATOL. 1956, 18/3 (30-36) Graphs 2 Tables 4

When rabbits poisoned with AsH_3 are given narcotic doses of chloral hydrate (0.25 g. per kg.) or sodium amytal (0.025 g. per kg.) the globular resistance is decreased much less than in control animals also poisoned with AsH_3, 20-30 min. previously; it is particularly the resistance against the lowest percentage of NaCl solutions which is influenced. On the other hand, administration of Na amytal in doses of 0.1 g. per kg. increases the degree of lowering of globular resistance. Administration of 0.25 g. per kg. Na amytal 6 hr. after the poisoning when haemolysis begins, not only does not decrease the degree of lowering of globular resistance, but even increases it. 0.1 g. per kg. Na amytal induces in rabbits a condition very near anaesthesia: it delays the development of haemolytic anaemia, but also the regeneration of red cells. Administration of 0.5 g. per kg. chloral hydrate increases the development of haemolytic anaemia. Administration of 0.025 g. per kg. Na amytal 6 hr. after the poisoning caused in the first group: in 48 hr. in some animals retardation of the development of haemolytic anaemia, followed by enhancement; in the second group: in 24 hr. a marked effect on the development, accelerating and increasing globular destruction. Administration of 0.25 g. per kg. chloral hydrate to white mice 20-30 min. after poisoning them delayed the development of haemolytic anaemia; 6 hr. later, however, it enhanced it. Introduction of the narcotic substance soon after poisoning exerts a distinct influence on haemolytic anaemia and on erythropoiesis during the whole period of illness. The fact that this action is exerted via the central nervous system was proved with the aid of trauma of the animals' heads or repeated knocking on the head: a distinct increase of erythrocytes and of the Hb content ensued; no variations of globular resistance. Cranial trauma in poisoned rabbits delays the development of haemolytic anaemia. It is obvious that narcotic doses of chloral hydrate (0.5 g. per kg.) or of Na amytal (0.1 g. per kg.) do not interrupt the pathological reflex arc, but only modify the trophic manifestations of the central nervous system.

Kauchtschischwili - Milan (VI, 5)

STEPANSKIY, G.A., gvardii polkovnik med.sluzhby, prof.

Methods of artificial respiration for military field conditions. Voen.-med.zhur. no.10:16-27 O '58. (MIRA 12:12)

(RESPIRATION, ARTIFICIAL
methods in military field cond. (Rus))
(MEDICINE, MILITARY AND NAVAL
artif.resp., methods in field cond. (Rus))

STEPANSKIY, O.A.

Cholinesterase reactivators as an antidote in organic phosphorus poisoning; review of foreign literature. Farm. i toks. 21 no.2: 83-90 Mr-Ap '58 (MIRA 11:6)

1. II Moskovskiy gosudarstvennyy meditsinskiy institut imeni N.I. Pirogova.

(PHOSPHATES, poisoning,
cholinesterase reactivators ther., review (Rus))
(CHOLINESTERASE,
reactivators, ther. of phosphate pois., review (Rus))

LIDOV, I.P., dotsent; MESHKOV, V.V., kand.meditsinskikh nauk; STEPANSKIY, G.A., prof.

The Great Medical Encyclopedia is a valuable aid for the military physician. Voen.-med.zhur. no.7:83-90 Jl '59. (MIRA 12:11)
(MEDICINE--DICTIONARIES)

STEPANSKIY, G.A., prof., gvardii polkovnik meditsinskoy sluzhby

An important event in the life of the military medical service of the National People's Army of the German Democratic Republic. Voen.-med.zhur. no.10:91-92 O '59. (MIRA 13:3)
(MILITARY MEDICINE, history)

STEPANSKIY, G.A., prof. (Moskva)

Manual methods of artificial respiration. Med.sestra 18 no.12:13-21 '59. (MIRA 13:3)

(RESPIRATION, ARTIFICIAL)

STEPANSKIY, Georgiy Avraamovich

[Artificial respiration] Iskusstvennoe dykhanie. Moskva, Medgiz, 1960. 161 p. (MIRA 13:12)
(RESPIRATION, ARTIFICIAL)

STEPANSKIY, G.A.

Oximes as therapeutic agents in poisonings with organic phosphorus compounds (according to foreign data). Farm. toks. 24 no.3:357-371 My-Je '61. (MIRA 15:1)

1. II Moskovskiy gosudarstvennyy meditsinskiy institut imeni N.I. Pirogova.

(OXIMES--THERAPEUTIC USE)
(PHOSPHORUS ORGANIC COMPOUNDS--TOXICOLOGY)

STEPANSKIY, I., inzh.

Transporting 30 m. trusses. Na stroi. Ros no.2:14 F '61. (MIRA 14:6)

(Trusses--Transportation)

STEPANSKIY, L.G., inzh.

Solving some problems in the theory of machining metals by pressing. Sbor.MOSSTANKIN no.4:18-44 '58. (MIRA 12:4)
(Forging)

STEPANSKIY, L.G., insh.

Determining stresses in upsetting pipes in containers. Vest. mash. 38 no.3:42-43 Mr '58. (MIRA 11:2)
(Metals--Cold working)

S.. PANSKIY, L.S., Cand Tech Sci — (diss) "Axis-symmetrical plastic deformation under conditions of ~~manifold~~ through uneven compression in the container." Mos., Department of Technical Service and Information, 1959. 14 pp (State Committee of the Council of Ministers USSR on Automation and Machine Building. Central Scientific ~~Research~~ Inst of ~~Engineering~~ Technology and Machine Building TsNIITMash). 150 copies (KL,39-59, 105)

59

[redacted], L.G.

Calculation stresses and deformations caused by mechanical working of metals. Kuz.-shtam.proizv. 1 no.3:13-18 My '59. (MIRA 12:10)

(Deformations (Mechanics))

STEPANSKIY, L. G.

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

268. L. M. Stavrski (Kuibishev): Strain design and general stability of structures.

269. L. M. Stavrayi (Kuibishev): A general method of solving non-linear problems of structural mechanics.

270. R. D. Stepanov (Moscow): A contribution to the non-linear problem of plate flutter.

271. L. G. Stepanskii, E. P. Unksov (Moscow): On the use of variational principles for the approximate solution of some problems of plastic equilibrium.

272. A. I. Strelbitskaia (Kiev): Experimental investigation of the oblique bending of steel beams beyond the elastic limit.

273. A. S. Struganov (Moscow): Strength and visco-plastic flow of soils.

274. G. I. Ter-Stepanian (Erevan): The relation between pore pressure and rate of creep of slopes.

275. L. A. Tolokonnikov (Tula): Finite plastic strains of non-linearly deformed bodies.

276. A. D. Tomlenov (Moscow): Piercing of metals by a spherical punch considering contact friction.

277. Iu. L. Turchinskii (Moscow): An asymptotic method of designing flexible blades of variable pitch at high speeds of rotation.

278. G. V. Tsumar (Moscow): Application of similarity methods to the analysis of the flow of rubber compounds.

279. A. A. Trapeznikov, T. G. Shalopalkina (Moscow): Dependence of the maximum elastic and discontinuous strains of aluminum-naphthenate gels on strain rates.

280. S. A. Tumarkin (Moscow): An asymptotic method for the design of toroidal shells.

281. V. K. Turkin (Moscow): Some problems of soil dynamics.

282. N. V. Tsibin (Kazan): The flow in the boundary layer of an elastic, visco-plastic medium.

283. A. G. Ugodchikov (Gorkii): Some problems concerning the analysis of stresses in shrink fits.

284. Ia. B. Fridman (Moscow): On strength and rupture criteria for metals in the presence of strain concentrations.

285. I. I. Ulitskii (Kiev): Some problems of [illegible]

286. A. A. Umanskii (Moscow): Analogy and model methods in problems of structural mechanics concerning bars and thin-walled structures.

287. M. T. Urazbaev (Tashkent): The problems of seismic strength of fluid supporting hydraulic structures.

288. Ia. S. Ufliand (Leningrad): Application of integral transformations to the solution of some problems concerning an elastic wedge.

289. V. S. Fedorov (Moscow): Deformations of plastic clays in molding.

290. I. V. Fedorov (Moscow): Elastic-plastic equilibrium of an acute granular wedge.

291. M. L. Feldman (Dnepropetrovsk): Stability and vibrations of orthotropic plates of variable thickness.

292. A. P. Filippov (Kharkov): Extensional vibrations of turbine discs.

293. M. M. Filonenko-Borodich (Moscow): On the possibility of generalizing the Mohr and Huber-Mises-Hencky theories of rupture.

294. D. P. Fleishman (Lvov): Some problems concerning the bending of plates and shells with stiffeners.

295. L. M. Flitman (Moscow): On the impact of a wave on a heavy rigid sphere embedded in an elastic medium.

296. V. A. Florin (Leningrad): Some problems concerning rock formations of hydraulic structures.

297. V. A. Florin (Leningrad): Present state and problems of soil mechanics.

298. V. A. Florin (Leningrad): Flow conditions for saturated sands.

299. G. V. Florina (Leningrad): Experimental study of real and apparent friction in vibrating soils.

300. S. N. Fridlin, B. M. Shakhnovskii (Kiev): On the construction of Green's functions for the equilibrium problem of shallow shells.

301. G. V. Freidfeld (Kharkov): Further development of the initial rheological equation.

302. V. S. Frolov (Moscow): Temperature stresses in cantilever plates and their effect on stiffness.

STEPANSKIY, L.G. (Moskva); UNKSOV, Ye.P. (Moskva)

Approximate solution of some problems of plane and axisymmetric plastic deformations. Izv. AN SSSR. Otd. tekh.nauk.Mekh. i mashinostr. no. 1:170-173 Ja-F '61. (MIRA 14:2)
(Deformations (Mechanics))

UNKSOV, Ye.P.; STEPANSKIY, L.G.

Designing the process of pressure cladding of bimetal tubes.
Kuz.-shtam. proizv. 4 no.3:3-8 Mr '62. (MIRA 15:3)
(Metal cladding) (Tubes)

S/182/62/000/003/001/006
D040/D113

1.1310

AUTHORS: Unkov, Ye. P. and Stepanskiy, L.G.

TITLE: Calculation of the bimetal tube pressing process

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 3, 1962, 3-8

TEXT: The results of research on the pressing of bimetal tubes, conducted by the authors at TsNIITMASh in 1960, are given. The derived calculation formulas for determining the necessary dimensions of tube billets, the required pressing force and the press capacity are also presented. The experiments consisted in pressing 18 x 3, 18 x 2, 16 x 2 and 15 x 1.5 mm bimetal tubes, clad with a 0.2 - 1.2 mm metal layer on the outside or inside, in a 400-t vertical hydraulic press. A container, 40 mm in inner diameter, was used. Armco iron and steel grades ЭИ612 (EI612), 1Х18Н9Т (1Kh18N9T), ЭИ 852 (EI852), ЭИ 847 (EI847) and 45 were used. Billets were prepared by turning forged metal rods, pickling them to remove oxide films, assembling them into bi-layer billets by pressing, and finally heating them for pressing

/c

Card 1/2

S/182/62/000/003/001/006
D040/D113

Calculation of ...

in a barium chloride bath after preheating to 750-800°C in an induction furnace. The container was preheated, and a mixture of graphite with machine oil used for lubricant on the container and die surfaces. The tube mandrel was lubricated with 20A (20A) glass powder of the Gosudarstvennyy institut stekla (State Glass Institute) dissolved in commercial water glass. The fluid pressure in the cylinder and the time of movement of the press slide were oscillographed. The conditions resulting in a steady pressing process are given in formulas for cases when (1) metal of higher strength is in the external layer, and (2) is on the inside. The recommended sequence of calculation using these formulas is given. O.A. Yegorychev, A.A. Mishulin and A.A. Sokolova took part in the experiments. There are 7 figures, 1 table and 6 references: 4 Soviet and 2 non-Soviet-bloc. The English-language reference is: "Materials in Design Engineering", 1958, 38, no. 7, 91-93.

Card 2/2

STEPANSKIY, L.G.

Calculating stagnation zones in metal during extrusion.
Kuz.-shtam. proizv. 5 no.10:1-3 O '63. (MIRA 16:11)

SHEVANSKIY, L.G., kand.tekhn.nauk

Boundaries of a plastic deformation focus caused by extrusion.
Vest.mashinostr. 43 no.9:59-62 S '63. (MIRA 16:10)

[illegible], L. A.

[illegible] Inzh. zhur. 5 no.2: [illegible] '65. (MIRA 18:9)

APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653220008-4"

ŠTEPÁNOVÝ, V.

"Nomographic representation of certain relations with six variables combined by connecting lines of the nomogram with a unary field.

SBORNÍK VĚDECKÝCH PRACÍ, Ostrava, Czechoslovakia, Vol. 4, No. 5, 1958.

Monthly List of East European Accessions (EEAI), LC, Vol. [illegible], No. 9, September 1959.

Unclassified.

STEPANSKY, Vaclav, prof., dr.

Representation of relations with eight to twenty-four variables by nomograms with several scale systems or binary fields united by crossed indexes with a system of directing lines. Sbor VSB Ostrava 9 no.2: 183-226 '63.

STEPANTSEV, A.; YASAKOV, A.; LIBERMAN, S.; MOISEYEVA, L.

Review the instructions for removing fat from carcasses. Miss. ind. SSSR 29 no. 4:39-40 '58. (MIRA 11:8)

1. Michurinskiy myasokombinat.
(Packing houses)

[redacted], T. T.

Pests and diseases of sugar beets and control of them. Tashkent, Gos-izdat UzSSR, 1944. 33p.

STEPANTSEV, I.M.

Temperature conditions of the woolly aphids. Izv.Otd.est.nauk AN Tadzh. SSR no.13:139-143 '56. (MLRA 9:10)

1.Tadzhikskiy sel'skokhozyaystvennyy institut.
(Plant lice)

0

COUNTRY : USSR
CATEGORY : Plant Diseases. Diseases of Cultivated Plants.

ABS. JOUR. : REF ZHUR - BIOLOGIYA, NO. 4, 1959, No. 15924

AUTHOR : Stepantsev, I.N.
INST. : AS Tadzhik SSR
TITLE : Cotton Wilt Diseases and Their Control.

ORIG. PUB. : Izv. Otd. estestv. nauk AN TadzhSSR, 1957, No. 21, 89-107

ABSTRACT : In contradiction of the established viewpoint on the nature of wilt in the cotton plant, the author expresses the opinion that the cause of the wilting was not fungi but special unfavorable meteorological conditions, and he considers the implantation of fungi on these plants to be a secondary factor. Wilt can be produced by a high critical temperature (higher than 38.7 degrees) with low humidity and

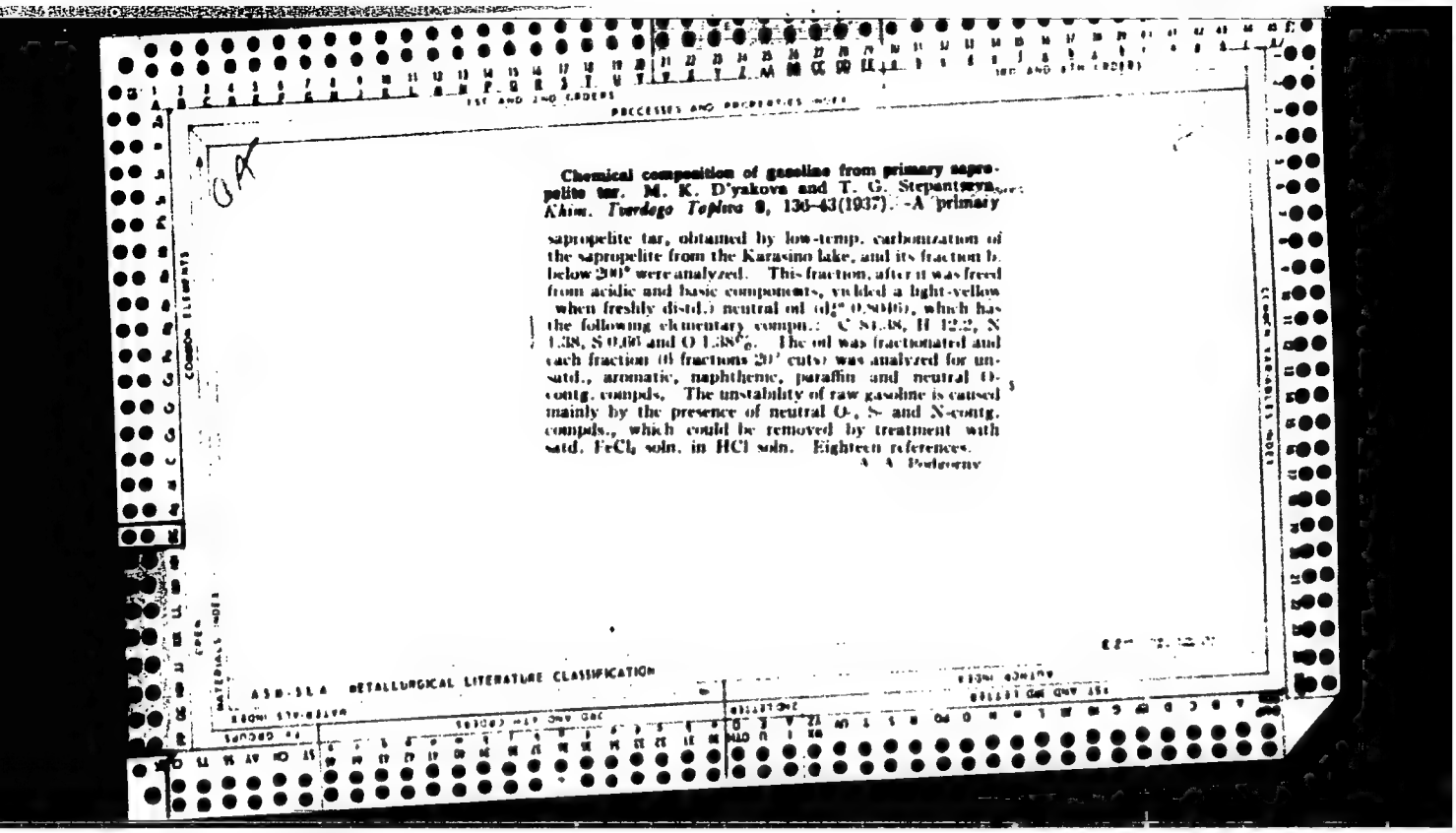
CARD: 1/3

ZAHAKIN, A.,polkovnik, kand.ped.nauk; STEPANTSEV, V.,kapitan, kand.ped.nauk

Reconsider some submachine gun operations. Voen.vest. 38
no.11:68-71 N '58. (MIRA 11:12)
(Machine-gun drill and tactics)

STEPANTSEV, Yu., kapitan 3-go ranga

How we try to raise the professional qualifications of seamen.
Komm.Vooruzh.Sil 2 no.2:57-60 Ja '62. (MIRA 15:3)
(Submarine boats)



Chemical composition of gasoline from primary sapropelite tar. M. K. D'yakova and T. G. Stepantseva. *Khim. Tverdogo Topliva* **8**, 130–43(1937). -A primary sapropelite tar, obtained by low-temp. carbonization of the sapropelite from the Karasino lake, and its fraction b. below 200° were analyzed. This fraction, after it was freed from acidic and basic components, yielded a light-yellow when freshly distd.) neutral oil (d_4^{20} 0.8046), which has the following elementary compn.: C 84.08, H 12.2, N 1.38, S 0.66 and O 1.38%. The oil was fractionated and each fraction (6 fractions 20° cuts) was analyzed for unsatd., aromatic, naphthene, paraffin and neutral O-contg. compds. The unstability of raw gasoline is caused mainly by the presence of neutral O-, S- and N-contg. compds., which could be removed by treatment with satd. $FeCl_3$ soln. in HCl soln. Eighteen references.
A. A. Podgorny

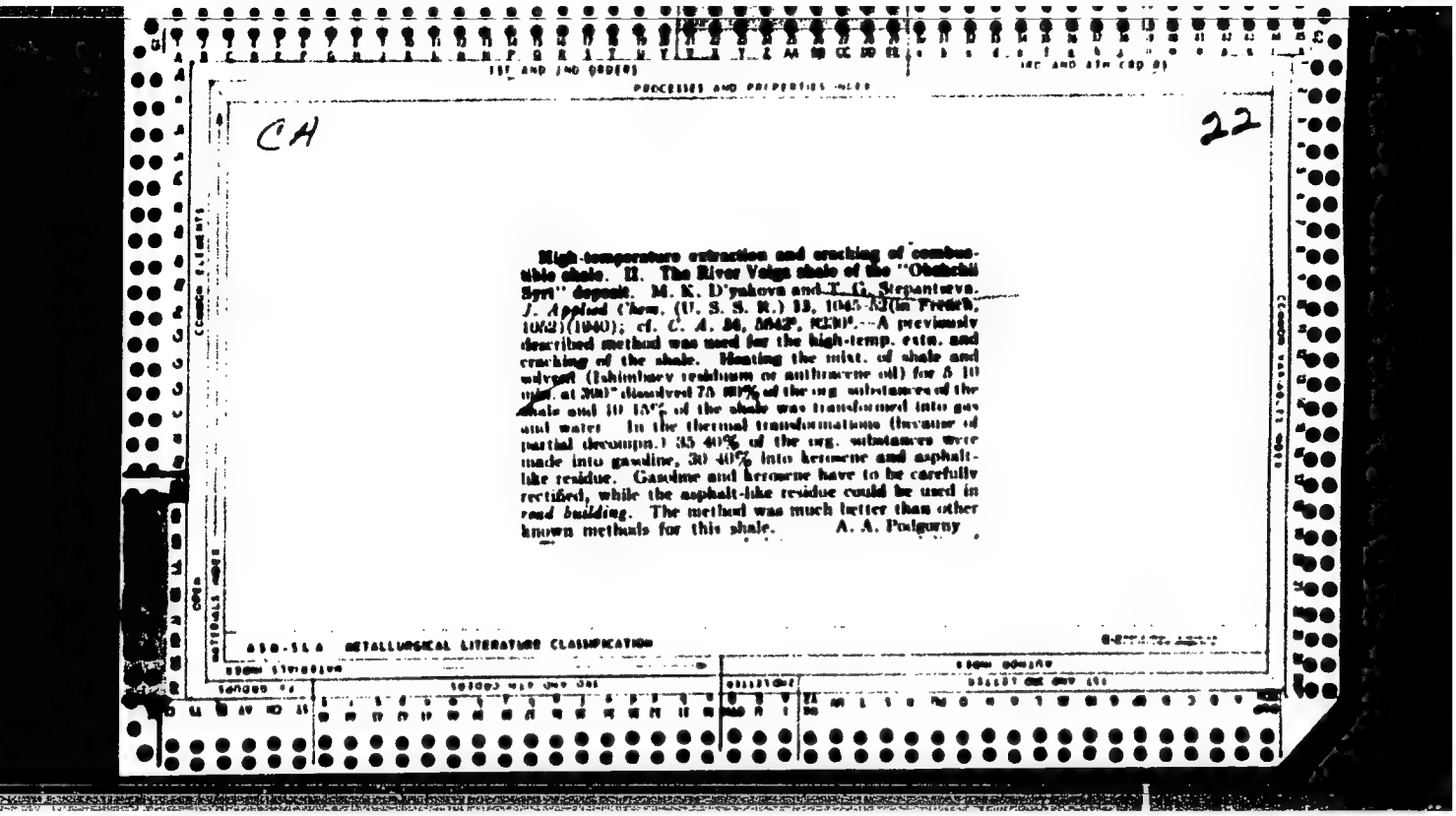
LOZOVOY, A. V., D'YAKOVA, M. K., STEPANTSEVA, T. G.

"On Certain Physical Constants of Mixtures of Hydrocarbons -- II," Zhur. Obshch. Khim., 9, No. 6, 1939. Received 1st July 1938.

Report U-1517, 22 Oct 1951

Some polycyclic homologs of naphthalene and tetralin. E. S. Pokrovskaya and T. G. Stepantseva. *J. Gen. Chem.* (U. S. S. R.) 9, 1953-60(1939).—Some condensation products of cyclohexene (I) with naphthalene (II) and tetralin (III) in the presence of $AlCl_3$ are described. To a soln. of 200 g. II in 60 g. CS_2 are added slowly while stirring and cooling 26 g. anhyd. $AlCl_3$ and an equimol. amt. of I. The stirring is continued for 15-20 mins., the reaction mixt. is treated with H_2O, and CS_2 distd. off. The benzene ext. of the reaction products is treated with HCl and alkali, dried and distd. From the fraction b_3 170-80°, β-cyclohexylnaphthalene (IV), m. 31°, d_4^{20} 1.0074, d_4^{50} 1.0049, n_D^{20} 1.5925, ... 0.07187, ... 0.00019, ... 0.02352, is isolated whereas the fraction b_3 154-6° consists of a mixt. of IV and another liquid hydrocarbon (V). Fraction b_3 190-230° gives dicyclohexylnaphthalene (VI), m. 150-1°, and a liquid isomer, b_3 203-6°, d_4^{20} 1.0399, d_4^{50} 1.0252, n_D^{20} 1.6019, n_D^{50} 1.5046, ... 1.0740, ... 0.8200, ... 0.1525. Fraction b_3 230-70° gives tricyclohexylnaphthalene, m. 121-2°, and fraction b_3 270-320° gives tetracyclohexylnaphthalene, m. 290°. Dehydrogenation of the mixt. of IV and V gives 2-phenylnaphthalene, m. 97-8°, V thus being either α-cyclohexylnaphthalene or methylcyclopentylnaphthalene. Dehydrogenation of VI gives a new diphenylnaphthalene, m. 290°. To 200 g. III in CS_2 are added 20 g. $AlCl_3$ and 40 g. I while cooling. The reaction product after appropriate treatment is subjected to fractional distn. Fraction b_3 145-70° gives cyclohexyltetralin (VII), b_3 147°, d_4^{20} 0.9801, d_4^{50} 0.9630, n_D^{20} 1.5400, n_D^{50} 1.5120, ... 0.8510, ... 0.1800, ... 0.0801, ... 0.0437, ... 0.0658. Fraction b_3 168-200° contains dicyclohexyltetralin, consisting probably of 2 or more isomers. Hydrogenation of VII in the presence of a Pt catalyst at 170-80° gives a mixt. of α- and β-cyclohexyldecalin, the mixt. showing $b_{1.5}$ 130-41°, d_4^{20} 0.9338, d_4^{50} 0.9354, n_D^{20} 1.5018, ... 0.4708, ... 0.0351. The cyclohexyl derivs. of II, III and decalin prepd. when subjected to the action of H_2SO_4 react more or less readily with the formation of sulfurization products. IV, VI and VII are easily sol. in aniline at room temp. O. B.

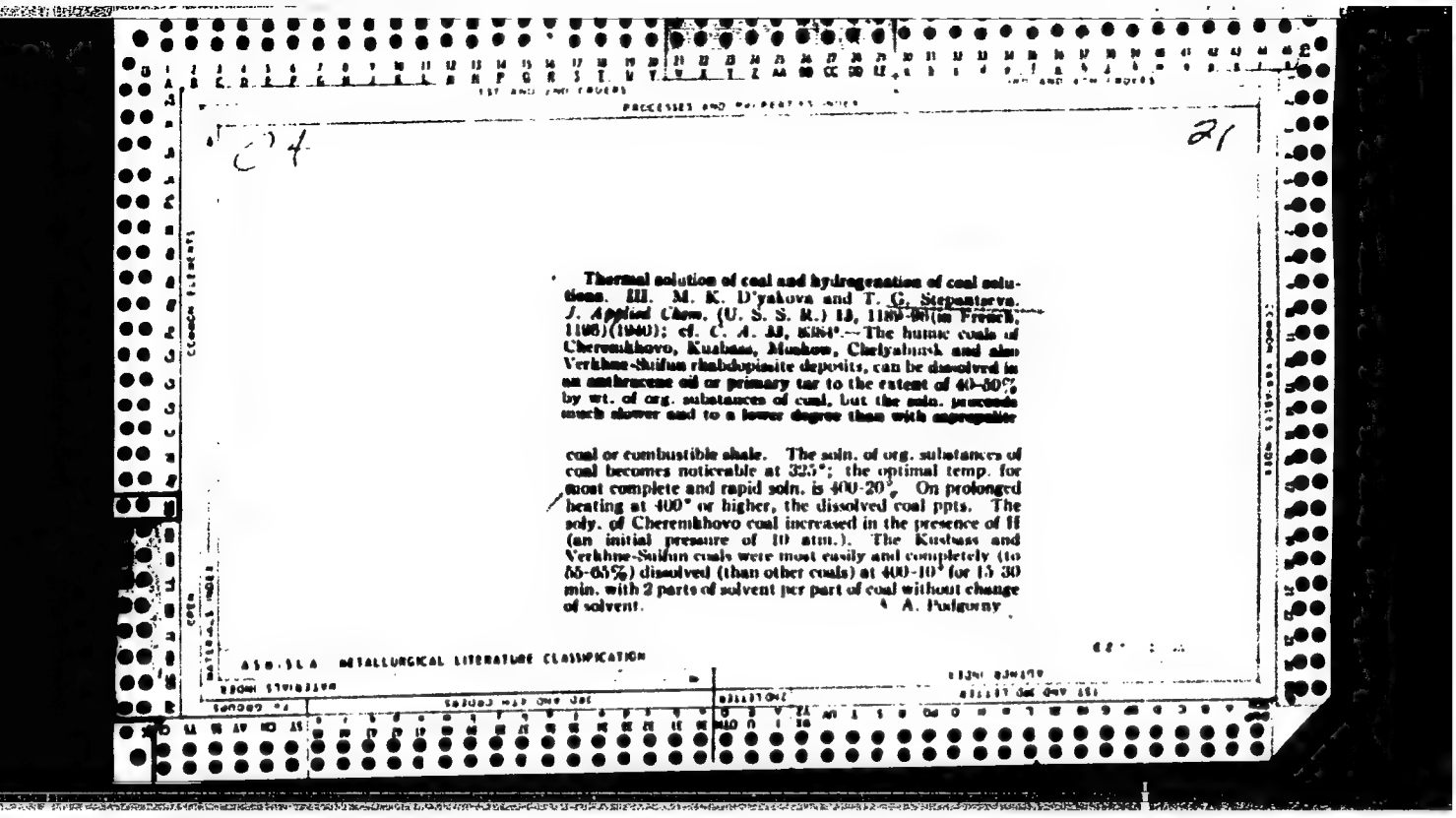
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

22

High-temperature extraction and cracking of combustible shale. II. The River Volga shale of the "Obshchii Syrt" deposit. M. K. D'yakova and T. G. Stepantseva. *J. Applied Chem.* (U. S. S. R.) 13, 1045-53 (in French, 1053)(1940); cf. *C. A.* 34, 5042⁸, 8230⁹.—A previously described method was used for the high-temp. extn. and cracking of the shale. Heating the mixt. of shale and solvent (Ishimbaev residuum or anthracene oil) for 5 hr. at 300° dissolved 75 80% of the org. substances of the shale and 10 15% of the shale was transformed into gas and water. In the thermal transformations (because of partial decompn.) 35 40% of the org. substances were made into gasoline, 30 40% into kerosene and asphalt-like residue. Gasoline and kerosene have to be carefully rectified, while the asphalt-like residue could be used in road building. The method was much better than other known methods for this shale. A. A. Polguny



C4

21

Thermal solution of coal and hydrogenation of coal solutions. III. M. K. D'yakova and T. G. Stepantseva. *J. Applied Chem.* (U. S. S. R.) 13, 1189-98 (in French, 1198)(1940); cf. *C. A.* 33, 8864.—The humic coals of Cheremkhovo, Kuibass, Mushov, Chelyabinsk and also Verkhne-Suifun rhabdopinite deposits, can be dissolved in an anthracene oil or primary tar to the extent of 40–50% by wt. of org. substances of coal, but the soln. proceeds much slower and to a lower degree than with anthracite coal or combustible shale. The soln. of org. substances of coal becomes noticeable at 325°; the optimal temp. for most complete and rapid soln. is 400-20°. On prolonged heating at 400° or higher, the dissolved coal ppts. The sol'y. of Cheremkhovo coal increased in the presence of H (an initial pressure of 10 atm.). The Kuibass and Verkhne-Suifun coals were most easily and completely (to 55-65%) dissolved (than other coals) at 400-10° for 15-30 min. with 2 parts of solvent per part of coal without change of solvent.

A. Pulgunny

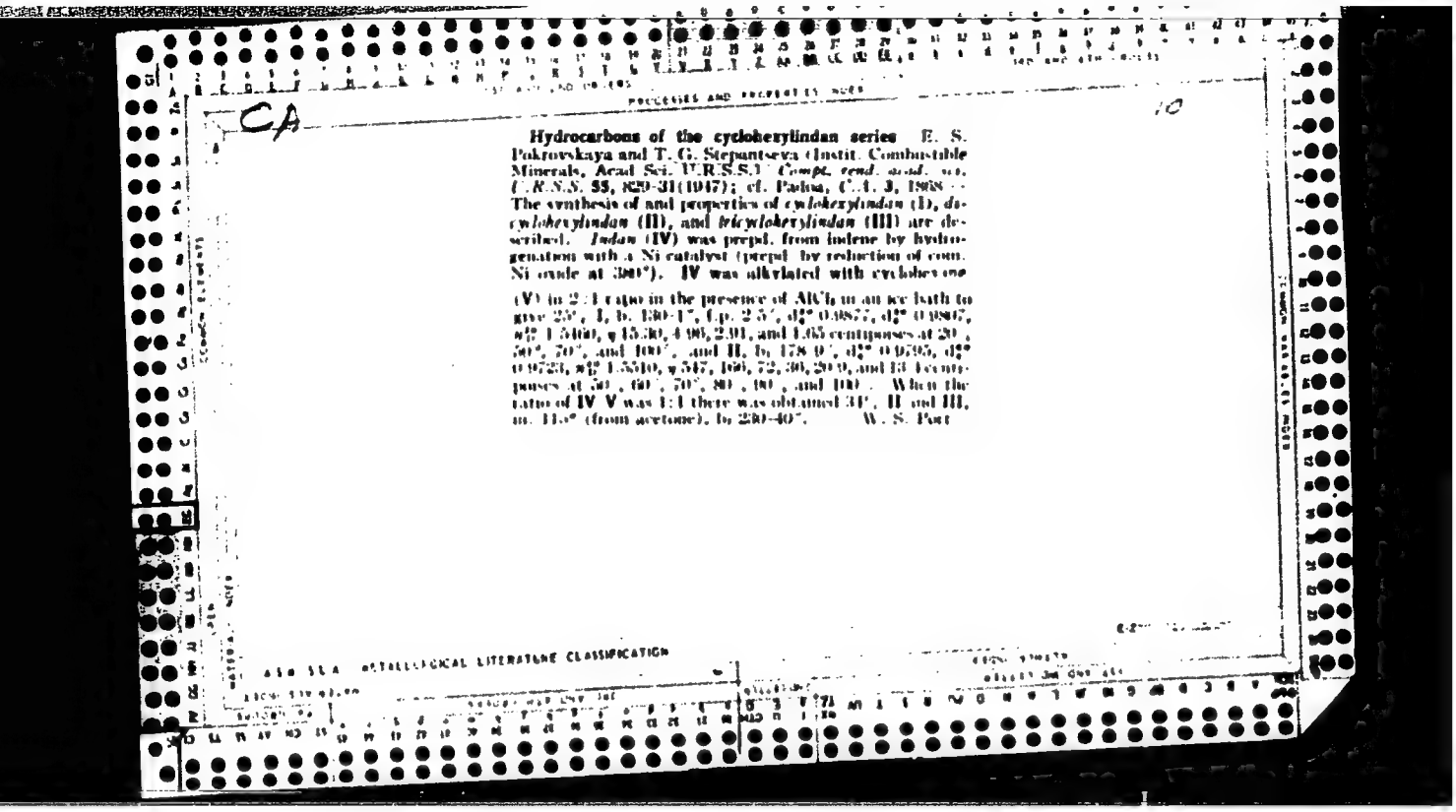
A50-51A METALLURGICAL LITERATURE CLASSIFICATION

BC

B-I-2

Thermal dissolution of combustible shales. M. K. Djarova and T. G. Stepantseva (Compt. rend. Acad. Sci. U.R.S.S., [illegible]). When finely-ground combustible shales, mixed with an equal wt. of fuel oil, anthracene oil, shale tar, or hydrogenated shale tar, are heated for 3—5 min. at 380—420°, 85—90% of the org. matter is dissolved and the mineral matter can be filtered off. Crude benzine, kerosene, and heavy bituminous matter can be separated from the solution and the solvent recovered. The solution obtained from certain shales can be converted almost completely into benzine by destructive hydrogenation. J. W. S.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

Hydrocarbons of the cycloherylindan series E. S. Pokrovskaya and T. G. Stepantseva (Institute Combustible Minerals, Acad. Sci. U.R.S.S.) *Compt. rend. acad. sci. U.R.S.S.* **55**, 829-31 (1947); cf. Pokua, C.A. **3**, 1958.—The synthesis of and properties of *cycloherylindan* (I), *dicycloherylindan* (II), and *tricycloherylindan* (III) are described. *Indan* (IV) was prepd. from indene by hydrogenation with a Ni catalyst (prepn. by reduction of com. Ni oxide at 300°). IV was alkylated with cyclohexene (V) in 2:1 ratio in the presence of $AlCl_3$ in an ice bath to give 25°, I, b. 130-1°, f.p. 2.5°, d_4^{20} 0.9857, d_4^{20} 0.9807, n_D^{20} 1.5400, η 15.30, 4.95, 2.91, and 1.65 centipoises at 20°, 50°, 70°, and 100°, and II, b. 178.9°, d_4^{20} 0.9795, d_4^{20} 0.9723, n_D^{20} 1.5510, η 547, 166, 72, 36, 20.9, and 13 centipoises at 50°, 60°, 70°, 80°, 90°, and 100°. When the ratio of IV:V was 1:1 there was obtained 31°, II and III, m. 11.5° (from acetone), b. 230-40°. W. S. Port

STEPANTSEVA, T. G., NAMETKIN, S. S. and POLKOVSKAYA, Ye. S.

"Hydrocarbons of the Naphthalene Series in Surakhany Petroleum," Dokl. AN SSSR, 67, No.5, 1949

Prepared naphthalene and its methylate homologues (beta-methylnaphthalene and 1,6-dimethylnaphthalene) from the kerosene fractions of light Surakhany oily petroleum by a method developed in Rumanian oil fields. Added picric acid to fractions of this highly aromatic kerosene (specific weight, $d_4^{20} = 0.8432$ and coefficient of refraction, $n_D^{20} = 1.4680$) in an ether solution. Isolated the naphthalenes in subsequent "boiling off" stages, in temperature ranges of from 190° to 252° C -- naphthalene itself in the lowest ranges and 1,6-dimethylnapht alone in the highest. Pictates are by-products of the processes. Submitted 13 Jun 49.

66/49T90

Hydrocarbons of the cyclohexylindan series. L. S. Pokrovskaya and T. G. Stepantseva. *Trudy Inst. Nefti, Akad. Nauk S.S.S.R.* 1, No. 2, 307–9 (1950).—Alkylation of indan (I) with 0.5 mol. equiv. of cyclohexene (II) in the cold and in the presence of anhyd. $AlCl_3$ yielded 5-cyclohexylindan, b_3 130–1°, m. 2.5°, d_{20} 0.9877, d_{20} 0.9307, n_D^{20} 1.5460, max. aniline point <−10° (III) and 5,6-dicyclohexylindan (IV), b_3 178–9°, d_{20} 1.0011, d_{20} 0.9458, n_D^{20} 1.5510, max. aniline point 9°. Equimolar reaction of I and II yielded more IV and tricyclohexylindan (V) (probably the 4,5,6-isomer) white crystals, m. 115° (from acetone). IV, glasslike, began to crystallize on standing 6 months. Abs. centipoise and kinematic centistoke viscosities data are given for III and IV at temps. from 20 to 100°. III with H_2SO_4 gave the corresponding sulfonic acid. I was prepd. in good yield and free from hydroindan by passing indene and H through an open tube at 215–20° contg. a Ni catalyst which in turn was prepd. by reducing NiO at 380°. A comparison of III and IV with analogous cyclopentyl derivs. of Tetralin shows that the indan compds. have a lower d. and n, but a higher viscosity. J. A. K.

STEPANTSEVA, T. G.

USSR/Chemistry - Petroleum Jul 52

"The Content of Hydrocarbons of the Naphthalene Series in Maykop, Tuymazy, and Dossor Crudes," Acad S. S. Nametkin (deceased), Ye. S. Pokrovskaya, T. G. Stepantseva.

"Trudy Inst Nefti" Vol 2, pp 10 - 16

The kerosene fraction from Maykop crude (tertiary deposits) contains considerable quantities of naphthalene, 3-methylnaphthalene, 1,6 and 1,7-dimethylnaphthalenes, trimethylnaphthalenes, higher homologs of naphthalene, and other polycyclic hydrocarbons of a more complex structure. The kerosene fraction of Tuymazy crude (Devonian deposits of Second Baku) does not contain napthalene itself, but some of its homologs. These homologs are precipitated as picrates together with polycyclic sulfur compds when the picric acid method of sep is used. The kerosene fraction of Dossor crude (Jurassic deposits, Emba region) does not contain noticeable quantities of naphthalene or its homologs.

PA 243T5

20-117

AUTHORS: Topchiyev, A. V., Member, Academy of Sciences, USSR, Pokrovskaya, Ye. S., Stepantseva, T. G.

TITLE: The Synthesis of Alkylindanes (Sintez alkilindanov)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 119, Nr 6, pp. 1164-1166 (USSR)

ABSTRACT: In order to begin the complicated investigation of the composition of the petroleum and mineral oil fraction with regard to hydrocarbons, first of all, hydrocarbons in a pure state are to be produced and universally studied, which correspond to the mentioned fractions according to their boiling. Among the possibly occurring aromatic hydrocarbons the indanes are entirely insufficiently investigated. Then follow some examples of the hitherto known data on this subject (Ref 1). In order to complete these informations the authors tried the synthesis of the indanes for the purpose of obtaining preparations for spectral analysis. Those were, above all, the substances menticned in the title with aliphatic substituents in the aromatic ring. A survey of publications

Card 1/3

...ing indanes
...leton catalyst
...hydrogen pressure
...rs. Reaction products
...d from propylene were ob..
...method from indane and propylene
...from the following fractions were
...15 and b) to di...corresponding to
...15H22.

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...solid ... isopropylindane $C_{18}H_{28}$ was produced
...g of alkylation with propylene of the wide mono-iso-
...ylindane fraction. Under analogous conditions indane
was alkylated by an equimolar quantity of butylene-1. Second-
ary butylindane $C_{13}H_{18}$ and di-secondary-butylindane $C_{17}H_{18}$
were isolated from the reaction products. Trimethylethylene
was used for the amylindane synthesis: a) at the ratio 3:1
with aluminum chloride and b) with catalyst $BF_3H_3PO_4$ (Ref 7).
In the case b) - 2 fractions (40 %) of amylindane $C_{14}H_{20}$
were obtained (table 1). Among the hydrocarbons mentioned in

TERENT'YEVA, Ye.M.; SANIN, P.I.; STEPANTSEVA, T.G.; KUSAKOV, M.M.; SHIMANKO, N.A.; SIDORENKO, V.I.

Synthesis and investigation of the ultraviolet absorption spectra of hydrocarbons of the 1,1-diphenylethane series. Neftekhimiia 1 no.2:141-148 Mr-Ap '61. (MIRA 15:2)

1. Institut neftekhimicheskogo sinteza AN SSSR.
(Hydrocarbons—Spectra)

KUSAKOV, M.M.; SHISHKINA, M.V.; PROKOF'YEVA, Ye.A.; KISLINSKIY, A.N.; SANIN, P.I.; TERENT'YEVA, Ye.M.; STEPANTSEVA, T.G.

Investigation of the oscillation spectra of hydrocarbons of the 1,1-diphenylethane series. Neftekhimia 1 no.3:317-328 My-Je '61. (MIRA 16:11)

1. Institut neftekhimicheskogo sinteza AN SSSR.

L 62083-65 EPF(c)/EWT(m) Pr-4 RM

ACCESSION NR: AP5016637 UR/0204/65/005/003/0320/0321
547.592.07

AUTHORS: Terent'yeva, Ye. M.; Sanin, P. I.; Stepantseva, T. G.; Klyukina, Z. P.

TITLE: Synthesis of polycyclic naphthenic hydrocarbons

SOURCE: Neftekhimiya, v. 5, no. 3, 1965, 320-321

TOPIC TAGS: hydrocarbon, polycyclic compound, synthesis property, cyclic hydrocarbon

ABSTRACT: In the present work, which is a continuation of an earlier investigation, nine polycyclic naphthenic hydrocarbons (not previously described in literature) were synthesized. Most of these hydrocarbons are the homologs of 1.1-dicyclohexyl ethane and are regarded as model hydrocarbons of the medium oil fractions. Some of them were obtained by hydrogenating the aromatic hydrocarbons described by E. M. Terent'yeva, P. I. Sanin, T. G. Stepantseva, M. M. Kusakov, N. A. Shimanko, and V. I. Sidorenko (Neftekhimiya, 1, No. 2, 141, 1961); the others were obtained by the condensation of styrol with mesitylol and cumene. From 20 to 50 g of hydrocarbon and 10% of a nickel catalyst were hydrogenated at 200C and at the initial hydrogen pressure of 130 atm. After each experiment, the autoclave was cooled to room temperature, the pressure was lowered to normal, the product removed, and the autoclave washed with alcohol which was then added to the product. Subsequently,

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L 62033-65
ACCESSION NR: AP5016837

the catalyst and alcohol were separated from the product, which was dried over calcium chloride and tested by the formolite reaction which indicates the absence of aromatic hydrocarbons. Finally, it was purified by multiple distillation. The characteristics of the bi-and tricyclic hydrocarbons obtained are tabulated. Orig. art. has: 1 table.

ASSOCIATION: Institut neftekhimicheskogo sinteza im. A. V. Topchiyeva AN SSSR (Institute of Petrochemical Synthesis, AN SSSR)

SUBMITTED: 04May64 ENCL: 00 SUB CODE: OC,GC

NO REF SOV: 005 OTHER: 001

Card 2/2

STEPANTSOV, V.I.

T-6

USSR/Pharmacology. Pharmacognosy. Toxicology - Roentgen Counteracting Drugs.

Abs Jour : Referat Zhur - Biologiya, No 16, 1957, 71753

Author : Kharkevich, D.A., Krylova, N.B., Stepantsov, V.I.

Inst :

Title : The Use of New Pharcacological Procedures in Arteriography.

Orig Pub : Biul. ekspeim. biol. i meditsiny, 1955, 40, No 11, 77-79

Abstract : It was demonstrated by tests on an isolated rabbit ear that the vascular constriction due to Sergosine (I) administration is largely connected with its peripheral effect. Rabbits and cats under ether anaesthesia were injected with 3-4 ml of a mixture of I with a 1-3% solution of papaverine into the aorta. Good arteriograms were obtained. The use of Na-nitrite (0.5 ml of 10% solution) was less effective. Histamine cannot be used in arteriography, because it raises vascular permeability and produces a diffusion of the contrast material into the surrounding tissues. Cardiotrast (50% solution) produces a slight spasm of the vessels.

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STEPANTSOV, V. I.

STEPANTSOV, V. I. - "The Effect of Strain in a Head-Pelvis Direction on the Arterial Flow in the Thigh Muscles (Experimental-Morphological Investigations)." First Leningrad Medical Inst imeni Academician I. P. Pavlov. Leningrad, 1955. (Dissertation for the Degree of Candidate in Biological Sciences)

So; Knizhnaya Letopis' No 3, 1956

USSR/Human and Animal Morphology. Circulatory System

Abs Jour : Ref Zhur - Biol., No 7, 1958, No 31299

Author : Katinas G.S., Stepantsov V.I.
Inst : Not Given
Title : Method of Evaluation of Some Data Which Characterizes the Capacity of a Vascular Channel.

Orig Pub : Izv. Akad. ped. nauk RSFSR, 1957, vyp. 84, 175-176

Abstract : For the objective measurement of the thickness of a vascular channel on a roentgenogram a direct line is drawn that intersects the image of all of the vessels that proceed through the diameter of the organ in the given instance. The number of vessels is computed, and with the ocular micrometer the diameter of the lumen of each of them is measured; after this, the area of the transverse section of the vessels is found. Considering the area of the diameter of the organ itself, one can obtain an idea of the thickness of the vascular network and of the capacity of the vascular channel.

Card : 1/1

STEPANTSOV, V.I. (Leningrad, K-44, pr. K. Marksa, 63, kv.11)

Dynamics of the formation of collateral circulation after section of the femoral artery. Arkh.anat.gist.i embr. 37 no.11:65-75 N '59. (MIRA 13:4)

1. Kafedra normal'noy anatomii (zaveduyushchiy - prof. M.G. Prives) 1-go Leningradskogo meditsinskogo instituta im. akademika I.P. Pavlova i kafedra biologicheskikh distsiplin (zaveduyushchiy - prof. N.V. Zimkin) Krasnoznamennogo Voyennogo instituta im. Lenina.
(FEMORAL ARTERY physiol.)

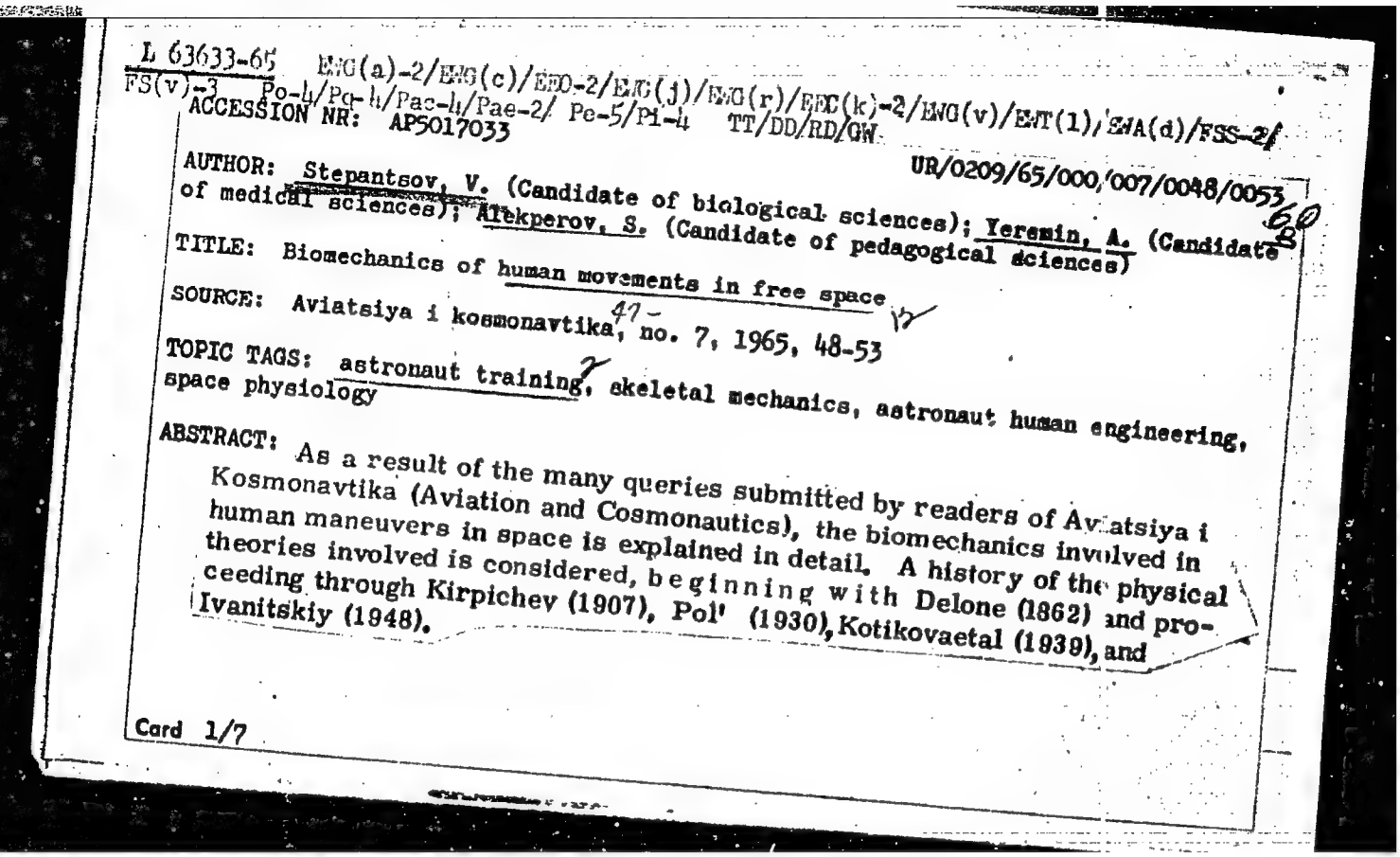
STEPANTSOV, V.I. (Leningrad, K-44, prospekt Karla Marksa, 65, kv. 35)

Morphological tranformations in the arterial bed of the femoral muscles following overloading in the direction of the head and pelvis. Arkh. anat. gist. embr. 39 no. 10:58-65 O '60. (MIRA 14:2)

1. Kafedra normal'noy anatomii (zav. - prof. M.G. Privès) I Leningradskogo meditsinskogo instituta imeni akademika I.P. Pavlova i kafedra biologicheskikh distsiplin (nachal'nik - prof. N.V. Zimkin) Krasnoznamennogo voyennogo instituta fizicheskoy kul'tury i sporta imeni V.I. Lenina.
(STRESS (PHYSIOLOGY)) (FEMORAL ARTERY)

VOLYNKIN, Yu.M.; YAZDOVSKIY, V.I.; GENIN, A.M.; VASIL'YEV, P.V.; GYURDZHIAN, A.A.; GUROVSKIY, N.N.; GORBOV, F.D.; SERYAPIN, A.D.; BELAY, V.Ye.; BAYEVSKIY, R.M.; ALTUKHOV, G.V.; KOPANEV, V.I.; KAS'YAN, I.I.; YEGOROV, A.D.; SIL'VESTROV, M.M.; SHEPURA, S.F.; TERENT'YEV, V.G.; KRYLOV, Yu.V.; FOMIN, A.G.; USHAKOV, A.S.; DEGTYAREV, V.A.; VOLOVICH, V.G.; STEPANTSOV, V.I.; NYASHIKOV, V.I.; YAZDOVSKIY, V.I.; KASHIN, P.S., tekhn. red.

[First space flights of man; the scientific results of the medicobiological research conducted during the orbital flights of the spaceships "Vostok" and "Vostok-2"]Pervye kosmicheskie polety cheloveka; nauchny rezul'taty mediko-biologicheskikh issledovanii, provedennykh vo vremia orbital'nykh poletov korablei-sputnikov "Vostok" i "Vostok-2." Moskva, Izd-vo Akad. nauk SSSR, 1962. 202 p. (MIRA 15:11)
(SPACE MEDICINE) (SPACE FLIGHT TRAINING)



L 63633-65 EWG(a)-2/EWG(c)/EEO-2/EWG(j)/EWG(r)/EEC(k)-2/EWG(v)/EWT(1)/EWA(d)/FSS-2/
FS(v)-3 Po-4/Pq-4/Pac-4/Pae-2/ Pe-5/Pi-4 TT/DD/RD/GW

ACCESSION NR: AP5017033 UR/0209/65/000/007/0048/0053

AUTHOR: Stepantsov, V. (Candidate of biological sciences); Yeremin, A. (Candidate of medical sciences); Alekperov, S. (Candidate of pedagogical sciences)

TITLE: Biomechanics of human movements in free space

SOURCE: Aviatsiya i kosmonavtika, no. 7, 1965, 48-53

TOPIC TAGS: astronaut training, skeletal mechanics, astronaut human engineering, space physiology

ABSTRACT: As a result of the many queries submitted by readers of Aviatsiya i Kosmonavtika (Aviation and Cosmonautics), the biomechanics involved in human maneuvers in space is explained in detail. A history of the physical theories involved is considered, beginning with Delone (1862) and proceeding through Kirpichev (1907), Pol' (1930), Kotikovaetal (1939), and Ivanitskiy (1948).

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L 63633-65

ACCESSION NR: AP5017033

Figure 1 depicts the interaction of two parts of a body in an unsupported state. The proportion derived from the diagram is:

$$\frac{a_1}{a_2} = \frac{J_2}{J_1}$$

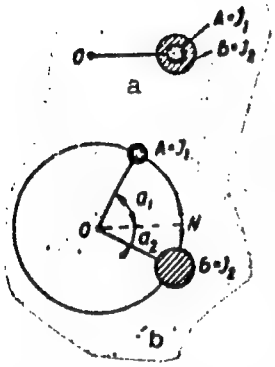

Fig. 1. Interaction of two parts of a body in an unsupported state during muscular movement: a-position of body parts prior to interaction. b-position of body parts a few moments after the beginning of the interaction

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L 63633-65

ACCESSION NR: AP5017033

Thus the angular rate of interacting body parts is inversely proportional to their moments of inertia. Figures 2, 3, and 4 show the types of exercises employed to facilitate adaptation to an unsupported condition. The results of studies involving the exercises shown in the figures lead to the conclusion that man can quickly and accurately orient his body position in a free-space condition without having to use any mechanical means. However, propulsion devices located on the back at the center of gravity and at the shoulder level will most likely be used, and their effectiveness will be enhanced by means of the physical training procedures described. In any case, the article points out the necessity for special terrestrial training procedures to prepare man for free-space maneuvers. The Zhukov turntable is regarded as the best means of conditioning turning movements in space. Also useful for conditioning free-space maneuvers are acrobatics and especially swimming exercises combined with parabolic flights in aircraft where actual free-space operating procedures can be practiced and perfected. The author asserts that others will follow Leonov into space to build manned orbital stations, live on them, and ultimately participate in Moon, Mars, and Venus missions.

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L 63633-65

ACCESSION NR: AP5017033

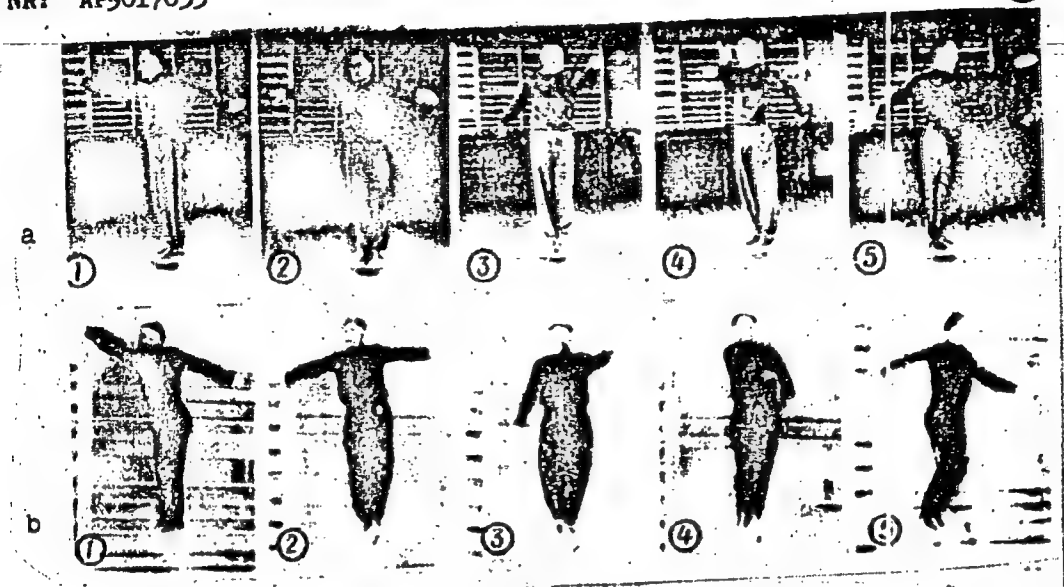

Fig. 2. Frames of turning movements executed with two hands: a-on the Zhukov turntable; b-in an unsupported state

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L 63633-65

ACCESSION NR: AP5017033

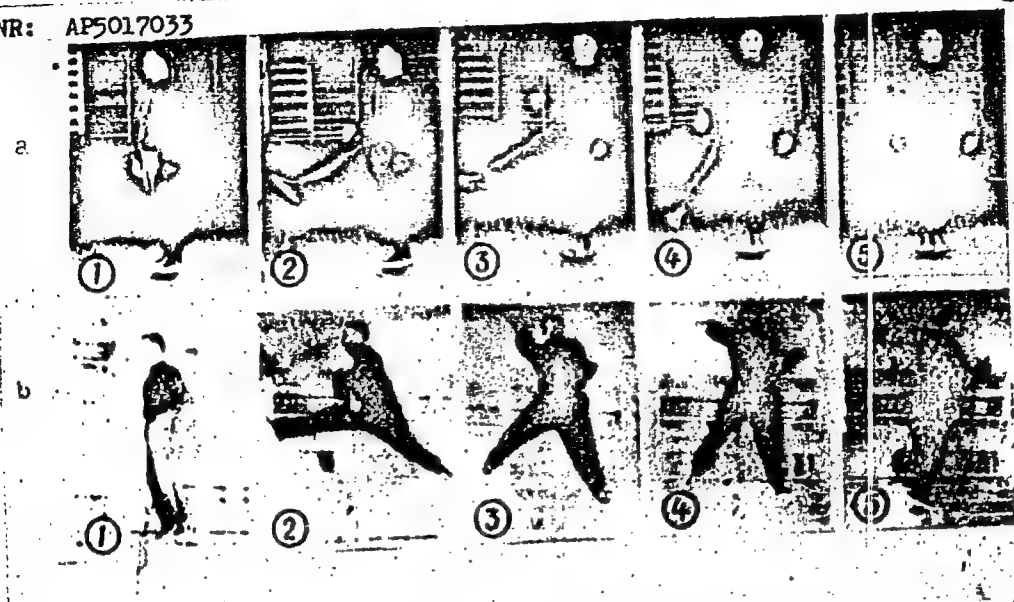

Fig. 3. Frames of turning movements executed with the legs: a-on the Zhukov turntable; b-in an unsupported state

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L 63633-65
ACCESSION NR: AP5017033

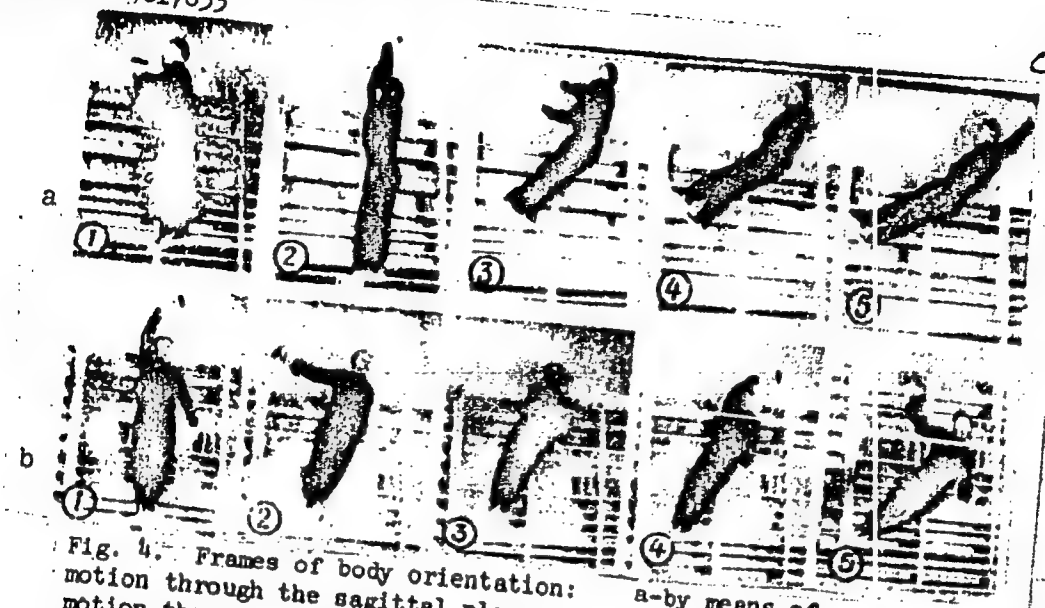

Fig. 4. Frames of body orientation: a-by means of angular hand motion through the sagittal plane; b-by means of circular hand motion through the frontal plane opposite to the turn of the whole body

Card 6/7

L 63633-65

ACCESSION NR: AP5017033

Orig. art. has: 32 figures.

ASSOCIATION: none

SUBMITTED: 00	ENCL: 00	SUB CODE: AA, LS
NR REF SOV: 000	OTHER: 000	ATD PRESS: 4035-F

Card 7/7

ACC NR: AP6000255 SOURCE CODE: UR/0209/65/000/011/0036/0038

AUTHOR: Stepantsov, V. (Candidate of biological sciences); Yeremin, A. (Candidate of medical sciences); Kolosov, I.

ORG: None

TITLE: Orientation in unsupported space

SOURCE: Aviatsiya i kosmonavtika, no. 11, 1965, 36-38

TOPIC TAGS: weightlessness, cosmonaut training, space flight simulation

ABSTRACT: In response to letters from readers requesting more details on an article published earlier, the authors present details on the moments of inertia of separate parts of the human body in various positions in unsupported space. A description is given of experiments performed to gain more information on the motor activity of man subjected to a longer (average 30 sec) period of weightlessness, created by an aircraft flying in a Kepler parabola. These experiments confirmed earlier theoretical and experimental data on the different methods of orientation (turning) of man by internal forces around three mutually perpendicular axes of the body. Some of the procedures used by the subject for turning in different

Card 1/2

L 9588-66
ACC NR: AP6000255

directions are described. A study was also made on the most effective way of using support (pushing with the hands or pulling) for aimed displacement in a prescribed direction. Pulling proved to be the simplest, most convenient, and most accurate method of displacement, with minimal twisting of the body. Some other considerations which should be taken into account in selecting the scheme and the design of individual means of movement in weightlessness are discussed. Orig. art. has: 1 figure.
[08]

SUB CODE: 22, 06 / SUBM DATE: none/ ATD PRESS: 4164

HW
Card 2/2

ACC NR: AT7011644

SOURCE CODE: UR/0000/66/000/000/0001/0004

AUTHOR: Stepantsov, V. I.; Yeremin, A. V.

ORG: none

TITLE: Biodynamics of extravehicular activities

SOURCE: International Astronautical Congress. 17th, Madrid, 1966. Doklady. no. 6. 1966. Osnovy biomekhaniki cheloveka v bezopornom polozhenii, 1-4

TOPIC TAGS: EVA, astronaut orientation, spatial orientation, extravehicular movement, manned space flight

ABSTRACT:

Extravehicular activity during weightlessness requires a total readjustment of coordination and reallocation of motor effort, and the modification of existing motor habits or the development of new ones. EVA away from the ship and without interaction with objects outside the body requires even more drastic modification of motor activity. Early attempts at the solution of the problem of maneuvering the body under these conditions by Kirpichev (1907) and Pol' (1930) are cited. Maneuvering the unsupported, weightless

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ACC NR: AT7011644

body by movements of the extremities depends primarily on the quantitative characteristics of interaction of the different parts of the body, and on anatomical considerations. The authors have computed the moments of inertia of the body and various extremities (head, arms, and legs) in various positions (bent, straight) and combinations for a man 168--172 cm tall weighing 70-75 kg. The authors propose the following maneuvers: 1) to rotate the body around its long axis, both arms are swung in a plane perpendicular to the axis of rotation. One such movement turns the body 60°. The arms are returned to the starting position through a plane parallel to the axis of rotation. Leg movements (initial position with the legs spread wide) are even more efficient, turning the body 160° or 90°. "Yawing" and "pitching" rotations (about a transverse or a front-to-back axis through the body's center of gravity) are accomplished by circular movements of both arms in the sagittal plane, or of one arm in the frontal plane. Initial results indicate that a properly trained person can maneuver his body into any desired position quickly and accurately without the use of any outside equipment (thrusters, etc.) or support.

Card 2/3

ACC NR: AT7011644

Orig. art. has: 1 figure and 1 table. ATD PRESS: 5098-F

SUB CODE: 06,22 / SUBM DATE: none

Card 3/3

STIPANTSOVA, L.P.; TIKHONOVA, L.P.; IVANOVA, T.K.

Histological changes in tissue during refrigeration, autoclave, and implantation according to Filatov's method. Arkh. pat., Moskva 15 no. 1:50-53 Jan-Feb 1953. (CLML 24:2)

1. Of the Department of Histology (Head -- Prof. L. I. Falin), Smolensk Medical Institute.

STEPANTSOVA, L.P.

Effect of ionizing radiation on soft dental tissues and the paradontium. Stomatologiia 37 no.5:22-30 S-O '58 (MIRA 11:11)

1. Iz kafedry gistologii (zav. - prof. L.I. Falin) i kafedry rentgenologii (zav. - prof. I.A. Shekhter) Moskovskogo meditsinskogo stomatologicheskogo instituta (dir. - dotsent G.N. Beletskiy).
(RADIATION--PHYSIOLOGICAL EFFECT)
(TEETH--DISEASES)
(GUMS--DISEASES)

STEPANTSOVA, N.P.; GELLER, B.E.; KARELINA, S.L.

Investigating the process of dyeing triacetate silk with active dyes. Izv.vys.ucheb.zav.; tekh.tekst. prom. no.5:83-87 '64. (MIRA 18:1)

1. Tashkentskiy tekstil'nyy institut.

STEPANOVA, N.I.; G[illegible]

Studying the process of dyeing wool with various classes of water-soluble dyes. Izv.vys.ucheb.zav.; tekh.tekhnol. no.3:113-119 '60. (MIRA 18:8)

1. Tashkentskiy tekstil'nyy institut.

STEPANTSOVA, N.P.; GELLER, B.E.

Studying the fixing of water-soluble dyes by acetate fibers during printing. Izv. vys. ucheb. zav.; tekh. teks. prom. no.6:92-98 '65. (MIRA 19:1)

1. Tashkentskiy tekstil'nyy institut. Submitted March 30, 1965.

STUKOLOV, V.T.; STEPANUSHKIN, G.G.

Servicing locomotives at the Kropachevo Depot. Elek. i tepl. tiaga 2 no.10:25-27 O '58. (MIRA 11:11)

1. Nachal'nik lokomotivnogo otdela Zlatoustovskogo otdeleniya Yuzhno-Ural'skoy dorogi (for Stukolov). 2. Nachal'nik depo Kropachevo Yuzhno-Ural'skaya doroga (for Stepanushkin).
(Electric locomotives--Maintance and repair)

STEPANOVSKIY, Yu.P. [Stepanovs'kyi, IU.P.]

Little Lorentz group and equations of free massless fields with arbitrary spin. Ukr. fiz. zhur. 9 no.11:1165-1168 N '64 (MIRA 18:1)

1. Fiziko-tekhnicheskiy institut AN UkrSSR, Kiyev.

Stepanyan, A. A. "Late complications in wounds of the pleura of gunshot origin," (Report), Trudy III Zakavkazsk. s"yezda khirurgov, Yerevan, 1948 (on cover: 1947), p. 525- 526

SO: U-5210, 17 Dec. 53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

[illegible], [illegible]

[illegible] [illegible], A. A. [illegible] [illegible] [illegible] [illegible]. Sbornik nauch. Trudov ([illegible] nauch.-issled. In-t ortopedii i vosstanovit. Khirurgii), 1, [illegible], S. 125-27.

SO: Letopis, No. 32, [illegible].

MALIYEV, Yuriy Nikolayevich; KULIKOVSKIY, L.F., doktor tekhn. nauk, retsenzent; STEPANYAN, A.A., kand. tekhn. nauk, obshchestv. red.; PETROPOL'[redacted], I.Ye., red.; [redacted]OVA, V.M., tekhn.red.

[Electronic calculating machines] Elektronnye matematicheskie mashiny. Kuibyshev, Kuibyshevskoe knizhnoe izd-vo, 1963. 217 p. (MIRA 17:2)

STEPANYAN, A. A. Cand Tech Sci -- (diss) "Study of ferrodynamic galvanometers with rotating magnetic field in the [redacted] circuit of [redacted] compensator." Kuybyshev, 1959. 19 pp with [redacted] (Min of Higher and Secondary [redacted] Education RSFSR. Kuybyshev Industrial Inst im V. V. Kuybyshev), 151 copies (KL, 48-59, 115)

STEPANYAN, A.A., assistent

Ferrodynamic galvanometer with a rotating magnetic field in the circuit of an a.c.balancer. Izv.vys.ucheb.zav.; prib. no.3:8-14 '59. (MIRA 13:4)

1. Kuybyshevskiy industrial'nyy institut im. V.V.Kuybysheva. Rekomendovana kafedroy avtomaticheskikh i izmeritel'nykh ustroystv.
(Galvanometer)

30607
S/058/61/000/008/008/044
A058/A101

3,2410

AUTHOR: Stepanyan, A. A.

TITLE: The cubic meson telescope of the Crimean astrophysical observatory of the AS USSR

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1961, 80, abstract 8B388 ("Izv. Krymsk. astrofiz. observ., no. 24, 1960, 313-319, English summary)

TEXT: A cubic telescope for continuous registration of the hard component of cosmic rays is described. The telescope consists of three horizontal rows of ГС-60 (GS-60) Geiger-Müller counters connected in a coincidence circuit and separated from each other by 10 cm of lead for absorption of the soft component. Continuous registration of cosmic particles makes heavy demands on the operating stability of the telescope and the useful life of the counters. Their useful life was lengthened by means of quenching of discharge in the counters with the aid of a special electronic circuit. Quenching of discharge made it possible to reduce discharge time by a factor of 5-6 and lengthen the useful life of the counters to 10-12 months. A short description is given of the electronic circuits used in the set-up.

L. Landsberg

[Abstracter's note: Complete translation]

Card 1/1

30267

S/035/61/000/010/019/034
A001/A101

3.7430 (1482,1559)
3.9120 (1121, 1395)

AUTHORS: Stepanyan, A.A., Vladimirskiy, B.M.

TITLE: Investigation of effects of magnetic storms in cosmic radiation. I.

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 10, 1961, 59, abstract 10A421 ("Izv.Krymsk.astrofiz.observ.", 1960, v.24, 320-339)

TEXT: On the basis of observational data from 3 stations: Heerstmonceaux (England, $\lambda 50°5$, nucleon and meson components), Moscow (USSR, $\lambda 55°5$, nucleon and meson components) and Crimean Astrophysical Observatory, AS USSR ($\lambda 45°$, meson component) during the period from July 1957 to July 1959, 38 cases were analyzed of intensity drop of cosmic radiation, Forbush-type, associated with magnetic storms with sudden commencements. A tendency was discovered to the growth of amplitude of the effect with increasing amplitude of sudden commencement, at expense of the cases with preliminary disturbed geomagnetic field. Changes in the hardness of variation spectrum are analyzed, as well as the observed asymmetry in setting-in intensity drops with time. A correlation was discovered between

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BELOUSOV, V.M., inzh.; VIDMANOV Yu.I., inzh.; STEPANYAN, A.A., inzh.
UVAROV, G.A., kand.tekhn.nauk; FEDOROV, V.N., inzh.; SHESTAKOV,
B.I., kand.tekhn.nauk

Measuring devices and methods for measuring pulsations in boiler furnace systems. Izv. vys. ucheb. zav.; energ. 4 no.3:49-52 Mr '61. (MIRA 14:3)

1. Kuybyshevskiy industrial'nyy institut imeni V. V. Kuybysheva. Predstavlena kafedroy teploenergeticheskikh ustanovok.
(Transducers) (Boilers)

32094
S/169/62/000/006/076/093
D228/D304

3,+310

AUTHOR: Stepanyan, A. A.

TITLE: Some questions of the theory of the effect of magnetic storms in cosmic rays (Forbush effect)

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 6, 1962, 13, abstract 6G65 (Izv. Krymsk. astrofiz. observ., 25, 1961, 268-276)

TEXT: The author investigates the effect in cosmic rays when the earth strikes a corpuscular flow, having the form of a magnetized shell. The flow is ejected over a wide solid angle; its angular flare in the plane of the elliptic is ~90°. The force lines of the regular magnetic field frozen into the flow emerge from, and revert to, the sun's active region. Within the cavity the plasma is turbulent and represents separate clounds with a chaotic field. The earth's capture by a corpuscular flow leads to a reduction in the intensity of cosmic rays, and the variation spectrum is described by the expression:

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Some questions of ...

$$\frac{\sigma D(E)}{D(E)} = \frac{2}{\pi^2} \int_0^{\pi/2} \text{arc cos} \left(1 - \frac{E_0}{E \cos\theta}\right) \cos\theta \cdot d\theta$$

Here E is the particle energy, E_0 = 300 Hl, H and l are the field's intensity and the thickness of the regular field's layer, and θ is the angle between the direction of the vector of the velocity of primary particle movement and the perpendicular to the field intensity vector. It is shown that the spectrum's character does not change when there are irregularities in the regular field. Estimates are made of the ratios of the Forbush-effect amplitudes for various secondary cosmic-ray components. The relation of the amplitude of Forbush reductions to the local time (the effect's anisotropy) is calculated for hard and neutron components. It is shown

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S/035/62/000/006/021/064
A001/A101

AUTHOR: Stepanyan, A. A.

TITLE: Investigation of Forbush effect. II. Energy spectrum of variations. Relation of spectrum to the form of drop and duration of effect

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 6, 1962, 58, abstract 6A432 ("Izv. Krymsk. astrofiz. observ.", 1961, v. 26, 136 - 143, English summary)

TEXT: Characteristics of Forbush effect were studied on the basis of data from stations of cosmic radiation. The method used was determination of global intensity of the nucleon and meson components of cosmic radiation. Spectrum of variations during the Forbush effect was investigated using characteristics obtained from the global intensity. It is shown that spectra of variations must satisfy the requirement of the constancy of energy dependence, both from case to case and during the period of intensity drop. An approximate dependence of duration on amplitude has been found. Under some assumptions (see § 5) it turns out that the form of duration-versus-amplitude relation is determined by spectrum of

Card 1/2

STEPANYAN, A.A.; BLADIMIRSKIY, B.M.

Emission of high-energy particles by the sun. Astron.zhur. 38 no.3:439-442 My-Je '61. (MIRA 14:6)

1. Krymskaya astrofizicheskaya observatoriya AN SSSR.
(Solar radiation)

43156
S/203/62/002/003/004/021
I023/I250

AUTHOR: Stepanyan, A.A.

TITLE: Some properties of anisotropy during the Forbush-effect

PERIODICAL: Geomagnetizm i Aeronomiya, v.2, no.3, 1962, 443-452

TEXT: The anisotropy of decreases in the cosmic ray intensity during sudden magnetic storms is analyzed. Data of 14 cases collected in the course of an IGY were used. The amplitudes were obtained for the anisotropy of the nucleonic and hard components before the sudden beginning, during the storm, and in the course of several days after it. The analysis confirms that the anisotropy of the Forbush decrease is a consequence of the diurnal effect. Conclusions: 1) The anisotropy during a Forbush effect is explained by the increase of the diurnal variations. 2) In some cases a change in the phase and a decrease in the amplitude of the diurnal variations was observed after the beginning of a magnetic storm (in 3 out of 14 cases). 3) The spectrum of the diurnal variation during a Forbush effect is on the average the same as in absence of a magnetic storm. The

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Some properties of anisotropy...

average ratio of the amplitudes of the neutron and the hard components is 1.31±0.08, but the differences between individual cases can be large: from 0.85±0.12 up to 1.60±0.13. 4) The anisotropy amplitude reaches its maximum, as a rule, during the first 24 hours after the sudden beginning of the magnetic storm. 5) The spectral properties of the anisotropy during a Forbush effect can be explained by Dorman's theory, but with a slight change in the meaning of the cut-off momentum P_m. There are 4 tables, 5 figures, 23 references. The most important references: D. Cattani, M. Galli, P. Randi. Nuovo cimento, 1961, 21, 923.
L.I. Dorman. Variatsii kosmicheskikh luchei (Variations in the cosmic rays), Gostekhteoretizdat, Moscow, 1957.

ASSOCIATION: Krymskaya astrofizicheskay observatoriya Akademii nauk SSSR (The Crimean Astrophysical Observatory, Academy of Sciences of the USSR)

SUBMITTED: February 10, 1962

Card 2/2

KULIKOVSKIY, T.F.; STEPANIAN, A.A.; CHERNOV, S.Ye.; SENIN, B.A.

Device for measurement of drilling rates, lowering and hoisting of tools, and well-shaft drilling. Izv.vys.ucheb.zav.; neft' i gaz 5 no.12:87-92 '62. (MIRA 17:4)

1. Kuybyshevskiy politekhnicheskiy institut imeni Kuybysheva.

45128
S/712/62/027/000/011/015
A001/A101

AUTHOR: Stepanyan, A. A.

TITLE: The total number of high energy particles ejected during the flare of May 4, 1960

SOURCE: Akademiya nauk SSSR. Krymskaya astrofizicheskaya observatoriya. Izvestiya. v. 27, 1962, 178 - 181

TEXT: On May 4, 1960, between 10.15 and 11.05 UT a flare of class 2+ took place on the Sun. The flare was accompanied by increasing intensity of cosmic rays. Analyzing the observational data and assuming independence of diffusion coefficient of coordinates and time, the author determines the following quantities: The diffusion coefficient $D = 0.7 \times 10^{23}$ $cm^2.sec^{-1}$ and the time of ejection $\Delta t = 7.5$ min. For the total flux of particles the expression $Q \approx 10^{31} I_{max}$ is derived, where I_{max} is the maximum flux in a small solid angle (approximately 1 steradian). This yields $Q = 10^{33}$ particles. The total energy of particles with $E > 1.5$ Bev is approximately 10^{30} erg. The conclusion is drawn that the particles were ejected during the initial stage of the flare; this is of im-

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The total number of high energy particles...

portance for the theories of cosmic ray generation during flares. The diffusion path was determined to amount to (5-7) x 10^{12} cm. There is 1 figure.

SUBMITTED: May 1961

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45129
S/712/62/027/000/012/015
A001/A101

AUTHOR: Stepanyan, A. A.

TITLE: On the problem of the variation spectrum during the Forbush effect

SOURCE: Akademiya nauk SSSR. Krymskaya astrofizicheskaya observatoriya. Ivestiya, v. 27, 1962, 182 - 193

TEXT: The problem of spectrum of variations is very important in studying the modulation of cosmic ray intensity, since the spectrum indicates the mechanism of effect. In the present article the author considers the spectrum of the Forbush effect. Several mathematical expressions for the Forbush effect spectrum are presented and discussed, but only three of them are theoretically calculated and compared with experimental data: 1) The spectrum of the type $\frac{1}{\pi}\arccos\left(1-\frac{P_0}{P}\right)$; 2) $\frac{\delta D}{D}=\frac{P_0}{P}$, and 3) the spectrum of variations generated by the effect of an electrical field. In order to compare the calculations with experimental data, the ratios of amplitudes of effect on various instruments were calculated, such as neutron monitor at sea level, neutron monitor at a

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On the problem of the variation spectrum...

level of 680 g/cm^2, cubic telescope at sea level, and the primary flux for the given parameters of the variation spectrum. Calculations were carried out for geomagnetic latitudes 50° and 0°. The comparison of experimental data with theoretical ones shows that the spectrum of the electrical field type yields the best agreement. Although the existence of an interplanetary electrical field is not very probable, the question of modulation of intensity by the heliocentric field remains still open. There are 2 tables.

SUBMITTED: May 1961

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3,2410 (also 2805)

40791

S/169/62/000/008/069/090
E032/E114

AUTHOR: Stepanyan, A.A.

TITLE: On the spectrum of variations during the Forbush effect

PERIODICAL: Referativnyy zhurnal, Geofizika, no.8, 1962, 11, abstract 8 G 84. (Izv. Krymsk. astrofiz. observ., v.27, 1962, 182-193)

TEXT: Reports calculations of the relations between cosmic-ray variations at different recording instruments during a Forbush effect. Three types of spectra are considered:

1) $(1/\pi)\cos^{-1}(1 - P_o/P)$; 2) $\delta D/D = P_o/P$; and 3) the spectrum of variations appearing under the action of an electric field. Comparison of the results with published experimental data shows that the spectrum of the form P_o/P is not in agreement with these data. The best agreement is obtained for the spectrum of the electric-field type.

[Abstractor's note: Complete translation.]

Card 1/1

S/712/62/028/000/020/020
E032/E314

AUTHOR: Stepanyan, A.A.

TITLE: Connection between the characteristics of the Forbush effect and chromospheric flares

SOURCE: Akademiya nauk SSSR. Krymskaya astrofizicheskaya observatoriya. Izvestiya. v. 28. 1962. 324 - 330

TEXT: IGY data and the results of other investigations are used to investigate the correlation between the Forbush effect and chromospheric flares. The surface of the Sun was divided into three zones (90°E - 10°E, 10°E - 10°W, 10°W - 90°W) in order to investigate the amplitude and duration of the Forbush effect on the flare coordinates. The average values of the Forbush-effect parameters were then found for each zone. Forbush effects unidentified with flares were assigned to the central zone, if they were large, and to the peripheral zone if they were small. This was done in such a way that the differences between the average characteristics of the zones were a minimum. It was found as a result of this procedure that the Forbush-effect parameters were independent of the coordinates of the flare (to within 20 - 25%). Next, an

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S/712/62/028/000/020/020
E032/E314

Connection between ....

analysis was made of the relation between the flare duration and the amplitude of the decrease in the cosmic-ray intensity during the Forbush effect. It was found that flares of longer duration were more likely to give rise to a Forbush effect than flares of short duration. The correlation coefficient characterizing the connection between the amplitude of the Forbush-effect decrease and the duration of flares is of the order of 0.8 ± 0.14. In the case of magnetic storms occurring in close succession, the Forbush effect tends to become suppressed if the flares responsible for the successive storms do not occur in the same active regions.
There are 1 figure and 4 tables.

SUBMITTED: December, 1961

Card 2/2

. VLADIMIRVISKY, A. A. STEPANYAN

. the Fundamental Features of Forbush Effect and on the Small Effects
of the Flares

Report submitted for the 8th Intl. Conf. on Cosmic Rays (IUPAP), Jaipur India
4-11 Dec 1963

STEPANYAN, A.A.

Width of corpuscular streams responsible for the diurnal effect in cosmic rays. Izv. Krym. astrofiz. obser. 29:126-130 '63.
(MIRA 16:10)

AZATYAN, V.D.; YESAYAN, G.T.; STEPANYAN, A.A.

Sukfonic acid esters. Report No. 12: -Chloroethyl esters of sulfonic acids. Izv. AN Arm. SSR. Khim. nauki 16 no.5: 461-464 '63. (MIRA 17:1)

1. Institut organicheskoy khimii AN Armyanskoy SSR.

L 32100-65 EWT(1)/EWG(v)/FCC/EEC-4/EEC(t)/EWA(h) Po-4/Pe-5/Pq-4/P1-4/Pae-2/Peb
GW/WS-2

ACCESSION NR: AR5005742 S/0169/64/000/011/A015/A015

SOURCE: Ref. zh. Geofiz., Abs. 12A89

44
B

AUTHORS: Stepanyan, A. A.

TITLE: On the mechanism of diurnal variation in cosmic rays

CITED SOURCE: Izv. Krymsk. astrofiz. observ., v. 32, 1964, 56-66

TOPIC TAGS: cosmic ray, diurnal variation

TRANSLATION: It is shown that the main characteristics of the diurnal effect in cosmic rays - the variation spectrum and the latitudinal variations of the first and second harmonics - can be explained by assuming that the diurnal variation is due to the action of an electric field; the absence of variation in the low-energy region (1--10 GeV) can then be attributed to the scattering of the cosmic rays by

magnetic clouds with radial field. [Author's summary].

SUB CODE: AA ENCL: 00

Card 1/1

[illegible] changes in the first and second harmonics of [illegible] variation. Dev. AN SSSR Ser. fiz. v.[illegible]
[illegible] (MIRA 18:2)

L 3088-66 EWT(1)/EWA(h)

ACCESSION NR: AP5018216 UR/0119/65/000/007/0015/0016
621.317.77:681.142.6

23
B

AUTHOR: Stepanyan, A. A. (Candidate of technical sciences); Chukhontsev, V. M. (Engineer)

TITLE: Static functional device

SOURCE: Priborostroyeniye, no. 7, 1965, 15-16

TOPIC TAGS: function generator 25

ABSTRACT: The principle of operation is explained of a new function generator which produces all trigonometric functions of a phase-shift angle between two voltage vectors of the same frequency. The function generator is based on three multipliers which develop: (1) a scalar product of two voltage vectors, (2) a vector product of two voltage vectors, and (3) a scalar modulus product of two voltage vectors. An experimental model of a new 50-cps phase meter (FV-162) uses the above principle. Orig. art. has: 1 figure, 11 formulas, and 1 table.

ASSOCIATION: none

Card 1/2

L 3088-66
ACCESSION NR: AP5018216 O

SUBMITTED: 00 ENCL: 00 SUB CODE: DP, MA

NO REF SOV: 003 OTHER: 000

Card 2/2

L 11110-66 EWT(1)/FCC/EWA(h) GW

ACC NR: AR5018139 SOURCE CODE: UR/0313/65/000/007/0031/0032

34

AUTHOR: Stepanyan, A.A.

B

ORG: none

TITLE: Mechanism of the diurnal variation in cosmic rays[12]

SOURCE: Ref. zh. Issledovaniye kosmicheskogo prostranstva. Otdel'nyy vypusk, Abs. 7.62.254

REF SOURCE: Izv. Krymsk. astrofiz. observ., v. 32, 1964, 56-66

TOPIC TAGS: cosmic ray measurement, particle, particle scatter, diurnal variation

TRANSLATION: A theory on the diurnal solar variation in cosmic rays, developed in 1955 by L.I. Dorman, is compared with experimental data obtained by the universal network of stations during the International Geophysical Year. The author points out that in order to coordinate a theory with experimentally obtained data, it is necessary to keep in mind two factors: 1) the redistribution of trajectories of cosmic ray particles in a geomagnetic field, leading to varied decreases in the variation amplitudes recorded at various geomagnetic latitudes. Thus, at the equator the decrease coefficient of the neutron monitor is 0.67 for the first harmonic, whereas it drops to 0.29 for the second harmonic of the diurnal solar variation; yet, at 70°

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2